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0430  
PATENT  
Docket No.: P1-004DVA

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Group Art Unit: Not yet assigned

Examiner: Not yet assigned

Serial No. 10/034,356

Filed: December 27, 2001

In re Application of: John M. Pinneo

For: IMPROVED THERMAL MANAGEMENT COMPONENTS

Certificate of Mailing

I hereby certify that this correspondence is being deposited with the United States Postal Service with sufficient postage as First Class Mail, in an envelope addressed to Director of Patents, Box Non-Fee Amendment, Washington, D.C. 20231 on 1/24/02, Signed Stephanie Davis  
Stephanie Davis

**TRANSMITTAL LETTER**

Director of Patents  
Box Non-Fee Amendment  
Washington, D.C. 20231

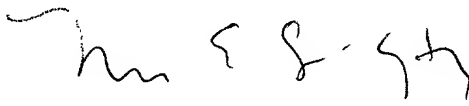
Dear Sir:

Enclosed please find a Preliminary Amendment in connection with the above-identified application.

In the event the patent office charges a fee for filing the above-noted documents, including any fees required under 37 CFR 1.136 for any necessary Extension of Time to make the filing of the attached documents timely, the Assistant Commissioner is hereby authorized to charge or credit the difference to our Deposit Account No. 50-0612. An additional copy of this page is enclosed.

Respectfully submitted,  
SIERRA PATENT GROUP, LTD.

Dated: January 24, 2002

  
Nicole E. Coppes-Gathy  
Reg. No.: 46,640

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**PRELIMINARY AMENDMENT**

Director of Patents  
Washington, D.C. 20231

Dear Sir:

Kindly amend the above-identified application as follows.

**In the Claims**

Please amend Claims 70, 72-75, 77, 79, and 81 and replace with the following "clean" versions:

70. The method of claim 69 wherein growing said diamond film comprises growing a diamond film having an area larger than said thermal transfer surface area of the semiconductor device and further including:

dividing said diamond film into portions, at least one portion having an area matched to the thermal transfer area of the semiconductor device; and

wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises thermally coupling a first surface of said at least one portion of said diamond film to said thermal transfer surface area of the semiconductor device.

72. The method of claim 69 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises mechanically bonding said first surface of said diamond film to said thermal transfer surface area of said semiconductor device with a bonding material having a thermal conductivity greater than  $0.1 \text{ W/cm}^\circ\text{K}$ .

73. The method of claim 72 further including mechanically bonding a second surface of said diamond film to a heat sink with a bonding material having a thermal conductivity greater than  $0.1 \text{ W/cm}^\circ\text{K}$ .

74. The method of claim 69 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises maintaining said first surface of said diamond film and said thermal transfer surface area of said semiconductor device in compression against one another.

75. The method of claim 74 further including maintaining a heat sink in compression with a second surface of said diamond film.

77. The method of claim 76 wherein said growing said diamond film comprises growing a diamond film having an area larger than said thermal transfer surface area of the semiconductor device and further including:

dividing said diamond film into portions, at least one portion having an area matched to the thermal transfer area of the semiconductor device; and

wherein said thermally coupling a first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises thermally coupling a first surface of said at least one portion of said diamond film to said thermal transfer surface area of the semiconductor device.

79. The method of claim 76 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises mechanically bonding said first surface of said diamond film to said thermal transfer surface area of said semiconductor device with a bonding material having a thermal conductivity greater than  $0.1 \text{ W/cm}^\circ\text{K}$ .

81. The method of claim 76 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises maintaining said first surface of said diamond film and said thermal transfer surface area of said semiconductor device in compression against one another.

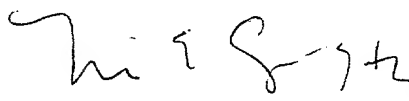
**REMARKS**

Amendments have been made to the claims. The amendments made to the claims are of a clerical, typographical or grammatical nature. It is submitted that the proposed amendments to claims do not constitute new matter.

In view of the foregoing, consideration and an early allowance of this application are earnestly solicited.

Respectfully submitted,

SIERRA PATENT GROUP, LTD.



Nicole E. Coppes-Gathy  
Reg. No: 46,640

Dated: January 24, 2002

Sierra Patent Group, Ltd.  
P.O. Box 6149  
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(775) 586-9500

**VERSION WITH MARKED UP CHANGES**

In the Claims:

Please amend Claims 70, 72-75, 77, 79, and 81 as follows:

70. (Amended) The method of claim 69 wherein growing said diamond film comprises growing a diamond film having an area larger than said thermal transfer surface area of the semiconductor device and further including:

dividing said diamond film into portions, at least one portion having an area matched to the thermal transfer area of the semiconductor device; and

wherein said thermally coupling [a]said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises thermally coupling a first surface of said at least one portion of said diamond film to said thermal transfer surface area of the semiconductor device.

72. (Amended) The method of claim [53]69 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises mechanically bonding said first surface of said diamond film to said thermal transfer surface area of said semiconductor device with a bonding material having a thermal conductivity greater than 0.1 W/cm/°K.

73. (Amended) The method of claim [55]72 further including mechanically bonding a second surface of said diamond film to a heat sink with a bonding material having a thermal conductivity greater than 0.1 W/cm/°K.

74. (Amended) The method of claim [52]69 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises maintaining said first surface of said diamond film and [said to] said thermal transfer surface area of said semiconductor device in compression against one another.

75. (Amended) The method of claim [57]74 further including maintaining a heat sink in compression with a second surface of said diamond film.

77. (Amended) The method of claim [77]76 wherein said growing said diamond film comprises growing a diamond film having an area larger than said thermal transfer surface area of the semiconductor device and further including:

dividing said diamond film into portions, at least one portion having an area matched to the thermal transfer area of the semiconductor device; and

wherein said thermally coupling a first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises thermally coupling a first surface of said at least one portion of said diamond film to said thermal transfer surface area of the semiconductor device.

79. (Amended) The method of claim 76 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises mechanically bonding said first surface of said diamond film to said thermal transfer surface area of said semiconductor device with a bonding material having a thermal conductivity greater than 0.1 W/cm/°K.

81. (Amended) The method of claim 76 wherein said thermally coupling said first surface of said diamond film to said thermal transfer surface area of the semiconductor device comprises maintaining said first surface of said diamond film and [said to] said thermal transfer surface area of said semiconductor device in compression against one another.